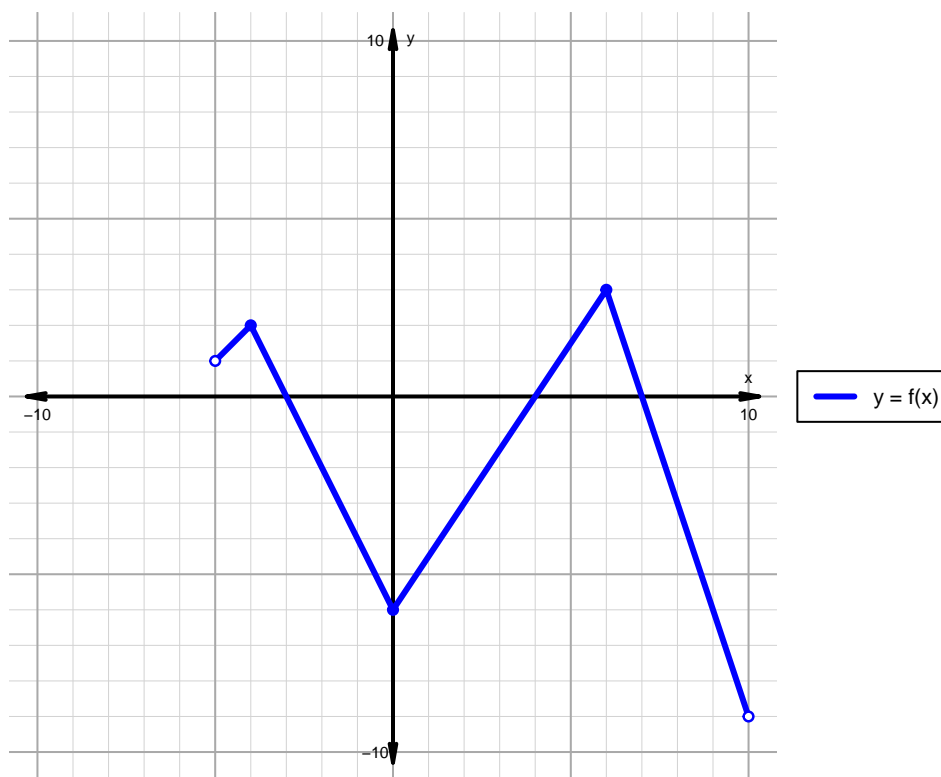


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 21)

1. The function f is graphed below.

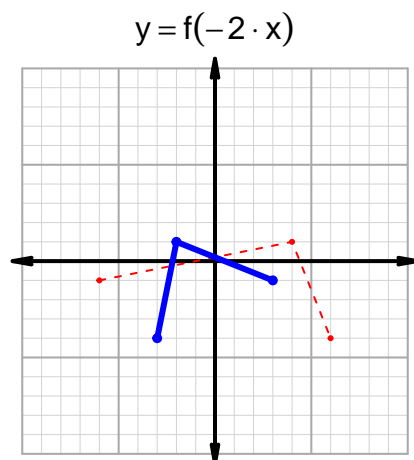
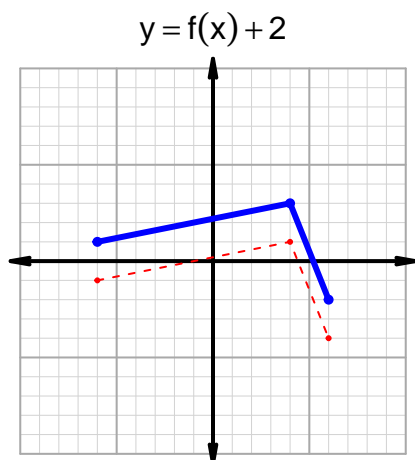
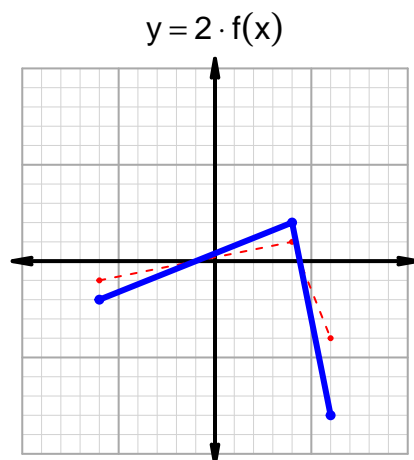
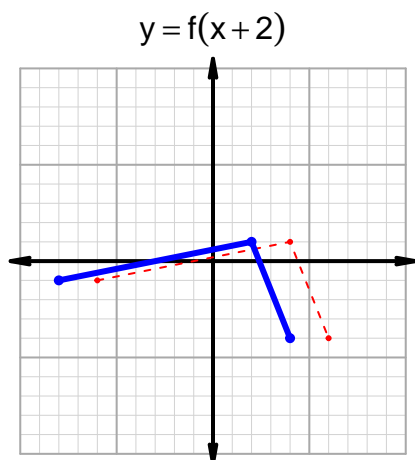


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-5, -3) \cup (4, 7)$
Negative	$(-3, 4) \cup (7, 10)$
Increasing	$(-5, -4) \cup (0, 6)$
Decreasing	$(-4, 0) \cup (6, 10)$
Domain	$(-5, 10)$
Range	$(-9, 3)$

Intervals, Transformations, and Slope Solution (version 21)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 46$ and $x_2 = 86$. Express your answer as a reduced fraction.

x	$g(x)$
46	81
57	46
81	86
86	57

$$\frac{f(86) - f(46)}{86 - 46} = \frac{57 - 81}{86 - 46} = \frac{-24}{40}$$

The greatest common factor of -24 and 40 is 8. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-3}{5}$$